



## Main Features

- ♦ Modular design for flexible I/O expansion
- ♦ Three SIM cards + dual WWAN modules support
- ♦ 8 x 10/100/1000 Mbps 802.3af PoE ports
- ♦ Built-in u-blox NEO-M8N module, optional Dead Reckoning support
- ♦ Intel® Core™ dual core i7-6600U/i3-6100U
- ♦ Dual removable SATA 3.0 SSD/HDD
- ♦ iButton for driver ID identification
- ♦ Built-in CAN 2.0B. Optional OBDII function (SAE J1939)

## Product Overview

MVS 5603 8-CH PoE Mobile NVR increases safety and security for bus passenger transportation with high video resolution and 2 removable extensive storage HDD/SSD capacity. It connects up to 8 IP cameras + PoE function providing reliable and high quality video coverage around the bus.

MVS 5603 is a modular design, it is flexible to use other kinds of expansion boards to extend different I/O functions for different applications.

MVS 5603 leverages wireless networks to simplify fleet management with capabilities such as remote, real-time video monitoring. This remote capability keeps transit fleets in service around the clock.

Vehicle data integration and diagnostics are also carried out via CAN Bus and OBDII. MIL-STD-810G for shock and vibration is designed to operate in harsh environments. Optional internal back-up battery guards against any unexpected vehicle power failure or unstable vehicle power.

## Specifications

### CPU

- ♦ 6th generation Intel® Core™ dual core i7-6600U, 2.6GHz/i3-6100U, 2.3GHz

### Memory

- ♦ 2-channel 204-pin DDR3L SO-DIMM socket support 1600MHz up to 16GB, default 2GB industrial grade memory

### Storage

- ♦ 2 x 2.5" SATA 3.0 SSD/HDD (removable & hot swappable), RAID 0, 1 supported (optional lockable storage available)
- ♦ 1 x CFast (externally accessible)

### Expansion

- ♦ 1 x full size Mini-PCIe socket (USB 2.0)
- ♦ 1 x full size Mini-PCIe socket (USB 2.0 + PCIe)
- ♦ 1 x half size Mini-PCIe socket (USB 2.0 + PCIe)

### GPS and On Board Sensor

- ♦ 1 x default U-blox NEO-M8N GNSS module for GPS/Glonass/QZSS/Galileo/Beidou
- ♦ Optional modules with Dead Reckoning available
- ♦ Built-in G-sensor

### Power over Ethernet

- ♦ Built-in TPM

- ♦ 8-port RJ45 for 10/100/1000 Mbps PoE IEEE 802.3af conformity, total 60W

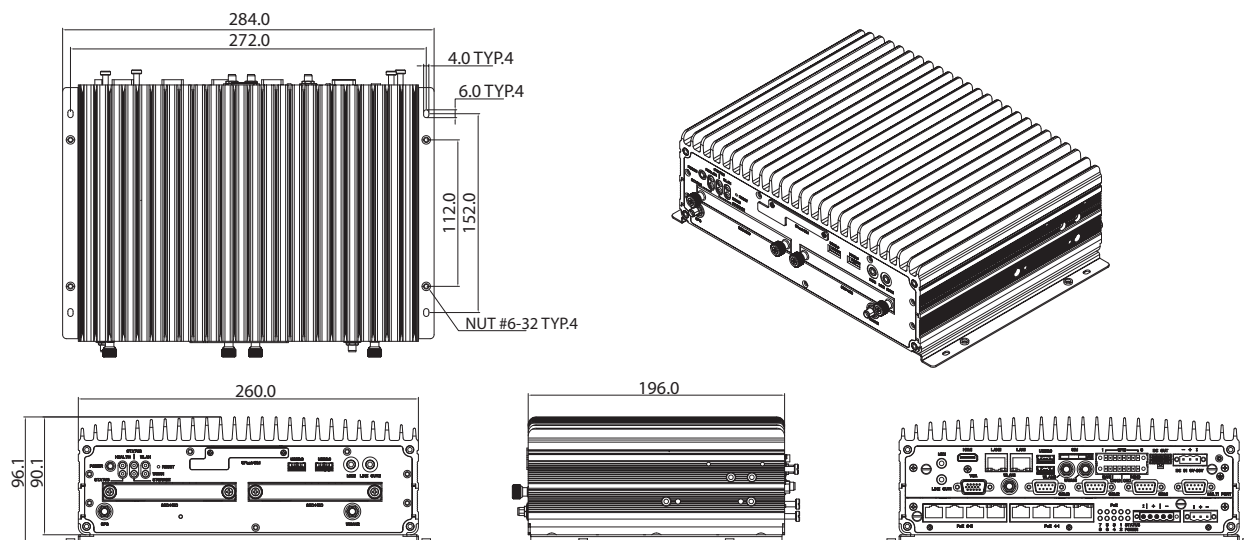
### I/O Interface-Front

- ♦ 6 x LED indicators for power/storage/WLAN/WWAN/Status/Health
- ♦ 1 x CFast socket with cover
- ♦ 1 x Reset button
- ♦ 2 x USB type A USB 3.0 port
- ♦ 2 x phone jacks 3.5mm for 1 x Mic-in and 1 x Line-out
- ♦ 1 x externally accessible SIM card sockets
- ♦ 2 x antenna holes for WWAN/WLAN/BT/GPS

### I/O Interface-Rear

- ♦ 8 x RJ45 10/100/1000 Mbps PoE ports with LED
- ♦ 2 x RJ45 10/100/1000 Intel® Fast Ethernet with LED
- ♦ 1 x 9~36VDC input with ignition and 40W typical power consumption
- ♦ 2 x USB type A USB 3.0 port
- ♦ 2 x phone jacks 3.5mm for 1 x Mic-in and 1 x Line-out
- ♦ 1 x DB-15 VGA, resolution up to 2560 x 1600 @60Hz
- ♦ 1 x HDMI port, resolution up to 2560 x 1600 @60Hz
- ♦ 2 x DB-9 RS-232
- ♦ 1 x DB-9 RS-232/422/485 (Ri/5V/12V selectable)
- ♦ 1 x 12VDC output (2A) + SM Bus + 2 x MDI + power button
- ♦ 1 x DB9 connector for optional DR signal input, 2 x MDO and iButton
- ♦ 1 x 16-pin terminal block connector
  - 1 x CAN Bus 2.0B (on board)

## Dimension Drawing



- 1 x OBDII from optional VIOB-OBD-03 module (SAE J1939)
- 1 x CAN Bus 2.0B from optional VIOB-CAN-03 module
- 8 x programmable GPIO
  - (4 x Digital inputs, w/ optional 3KV isolation protection)
  - Input voltage (internal type): 5VDC TTL (default)
  - Input voltage (source type): 3 ~ 24VDC
  - (4 x Digital outputs, w/ optional 3KV isolation protection)
  - Digital output (sink type): 5VDC TTL (default), max current: 20mA
  - Digital output (source type): 3 ~ 24VDC, max current: 150mA

### Power Management

- 1 x externally accessible SIM card socket and 1x internal SIM card socket selectable
- Selectable boot-up & shut-down voltage for low power protection by software. Setting 8-level power on/ off delay time by software. Support S3/S4 suspend mode
- Optional internal 1100mAh, Li-Polymer rechargeable battery

### Operating System

- Windows 7/WES7/Windows 8/WES8/Windows 10/Linux kernel 3.X

### Dimensions

- 260mm (W) x 196mm (D) x 91mm (H) (10.24" x 7.72" x 3.58")
- 4kg

### Environment

- Operating temperatures:
  - 30°C~60°C (w/ industrial SSD) with air flow
- Storage temperatures: -40°C~80°C
- Relative humidity: 10% to 90% (non-condensing)
- Vibration (random):
  - 1.5g@5~500 Hz (in operation, HDD), 2g@5~500 Hz (in operation, SSD)
- Vibration (SSD/HDD):
  - Operating: MIL-STD-810G, Method 514.6, Category 4, common carrier US highway truck vibration exposure
  - Storage: MIL-STD-810G, Method 514.6, Category 24, minimum integrity test
- Shock (SSD/HDD):
  - Operating: MIL-STD-810G, Method 516.6, Procedure I, functional shock=20g
  - Non-operating: MIL-STD-810G, Method 516.6, Procedure V, crash hazard shock test=75g

### Certifications

- CE approval, FCC Class A, E13 Mark

## Ordering Information

- **MVS 5603-7C8SK (P/N: 10VS0560300X0)**  
6th generation Intel® Core™ dual core i7-6600U, 2.6GHz, 2GB DDR3L industrial grade SO-DIMM, 8 x 10/100/1000 PoE, 2 x 10/100/1000 Ethernet, VGA/HDMI output, 2 x RS232, 1 x RS-232/422/485, 2 x USB3.0, 2 x USB2.0, 12VDC output, 1 x CAN
- **MVS 5603-3C8SK (P/N: 10VS0560301X0)**  
6th generation Intel® Core™ dual core i3-6100U, 2.3GHz, 2GB DDR3L industrial grade SO-DIMM, 8 x 10/100/1000 PoE, 2 x 10/100/1000 Ethernet, VGA/HDMI output, 2 x RS232, 1 x RS-232/422/485, 2 x USB3.0, 2 x USB2.0, 12VDC output, 1 x CAN